120315 Missile Defense Advocacy Alliance Capitol Hill Briefing on "Missile Defense in the Pacific," with former Missile Defense Agency Deputy Director Brigadier General Kenneth Todorov; Richard Fisher, Senior Fellow for Asian Military Affairs at the International Assessment and Strategy Center; and Riki Ellison, Chairman and Founder of the Missile Defense Advocacy Alliance

MR. RIKI ELLISON: Welcome, everybody. Thanks for coming. My name is Riki Ellison. I'm the host today and the chairman and founder of the Missile Defense Advocacy Alliance. Our sole mission is to advocate for the development and deployment of missile defense. I've been advocating for this issue since 2003. I've been involved with it since the 1980s, back in the days when it was an idea.

This is our seventh Congressional roundtable this year. I have just returned from an 18 day tour of the Pacific region. I was able to visit five U.S. bases, two Japanese bases, one Korean base, one U.S. Aegis ballistic missile defense ship, one Japanese ballistic missile defense ship, our one, one Patriot battalion in Okinawa, our THAAD battery at Guam, and the USFK headquarters in Seoul.

We held four missile defense events, recognition events, for excellence, in Japan, in Korea, in Okinawa, and in Guam. We were able to recognize 40 U.S. military members for their excellence in leadership on missile defense capabilities for 2015, and 30 Koreans and Japanese for the same excellence. We held the first-ever Japanese Missile Defender of the year. That was co-hosted by the now chief of the Japanese Air Force, General Yukimi, and we were able to recognize their entire Patriot force along with our navy, our marines, our airmen and our soldiers there.

We met with the 7th Fleet commander, the 5th Air Force commander of Japan, the 7th Air Force commander of Korea, the deputy USFK commander and soon to be the 8th Army commander, the U.S. Navy Force Korea commander, the Special Forces Operations Korea commander, the 94th AAMDC commander, the commander of the U.S. Shiloh, the commander of the Japanese Kirishima, the 35th ADA brigade commander, the 11th ADA battalion commander, and the Task Force battalion commander. In addition, we met with seven foreign general flag officers. So these are going to be my observations of this trip.

I do not represent the United States of America. I do not present their views. I don't represent industry. I don't represent the Republican Party or the Democratic Party. I represent my belief in missile defense that started in 1979. I believe wholeheartedly that the more missile defense our world has the safer our world is going to be. That's our sole mission.

I want to start off with telling you that President Obama's shift to the Pacific is taking place, and really I think the head of it is our missile defense, the tip of the spear there. Possibly 50 percent of our Aegis BMD ships are stationed in the Pacific now. At least two more baseline 9 Aegis ballistic missile defense ships are going to be added to

the six already Aegis BMD ships in the 7th Fleet.

We have the first-ever THAAD system that's in Guam. We have two TPY-2 radars forward-based in the north and the south of Japan. We have made a shift to our ADA battalions in Okinawa to go in an expeditionary capabilities. We're looking to put our newest upgrades in the Patriot systems, our PDBA, our newest plug-and-play, the IBCS (ph), and the new ADC (ph) Patriot missiles will be going into this region first.

I believe there's going to be upcoming a new ballistic missile defense brigade will be developed and stationed in the Pacific. I also believe the second THAAD battery is going to be deployed in the Pacific region. Additional Patriot batteries will be deployed there as well.

We had a great demonstration at Wake Island last month where we were able to demonstrate both the Aegis ballistic missile defense capability alongside of our THAAD capability with the TPY-2 radar against an integrated air and missile defense threat. We believe that the missile defense threat is not only North Korea but the near peer of China is becoming a main driver for the shift to the Pacific and of our forces that are required to be in place there. Relationships are being developed with India, especially with their navy. We probably have our strongest support in the world on missile defense with Japan and Korea.

There's growth taking place in platforms, sensors, C2BMC, along with the modernization of all these systems. There's increased budget spending by both Korea and Japan. The threat from China has been the dominant threat and their most concerned threat.

They are focused on situational awareness. It's critical for them, to be able to see everything that they can see. They're not able to do that as proficiently as they could. They're having an increase in their defense budget. They do want a third layer of missile defense beyond the Patriot and Aegis BMD ships, and they're looking at the THAAD system and they're looking at Aegis Ashore in Japan. They're in line to get four more new BMD ships.

All four of those will be baseline 9. They'll be SM-6 capable. They are working and modernizing their C2BMC to get much more collective information so they can share better with us. They still have some issues with their joint services being more stove-piped than joint.

In Korea, their focus is completely on North Korea. The August situation in North Korea where the landmines were placed by the North Koreans and the escalation went extremely fast to the massing of millions of armies on both sides, shows how volatile that region is. In perspective today, there's no logical, reasonable belief that North Korea can take over South Korea anymore. There is a game changer, and that game changer still remains North Korea's ballistic missiles and their nuclear weapons.

South Korea is modernizing their Patriot battalions. Those Patriot battalions will be going off to get modernized, so there's going to be concern that some of these critical assets will not be protected during that modernization. In that regard, my belief is that a THAAD system will be deployed in Korea, just for the mitigation of risk to their population on that aspect of it. The next North Korean test will most likely drive that decision forward, but there's no other capability today that can defend Korea like the THAAD system can in mitigating the risk and protecting the critical assets that they don't have enough capability to protect.

Korea is also moving forward on their SM-3s and their ship Aegis capabilities to get SM-6 capability. That capability is going to be very effective for the southern parts of their country. They're getting a four percent increase in their budget and they are spending it on the modernization of their missile defense capabilities.

In Okinawa, the Kadena Air Base that projects air superiority in the region, we have a 1188 battalion made up of four Patriot batteries. The decision has been made that two of those Patriot batteries be expeditionary so they can move and travel outside of Okinawa, and two will sit in and protect Okinawa. The newest systems I pointed out are going to be placed in Okinawa. The IBCS system that's being funded and supported, which will allow Patriots to go out on their own one battery at a time, rather than the whole battalion, is going to be put in place there first. The MSE missile will be put in there first. The PDB-8 upgrades will be put in there first.

In Guam, as you may know, that island is our strategic air capability where we have strategic bombers rotating in every six months. It also is where one of our submarine bases is at. The largest fuel depot in all of the Pacific is there, and the largest munitions is there. The United States' ability to project power into that region is based in Guam.

The THAAD system, our newest most modern system, is deployed there. I believe the new Patriot brigade headquarters is most likely going to be in Guam. I believe an additional THAAD battery, as an expeditionary battery, would be placed in Guam prior to the Korean deployment, an ability to be able to project power from there making it more efficient to train and support.

As to the future in the region, the United States certainly cannot do this on its own. We can't afford to do it, so the allied partnership is critical for that. Partnership and burden-sharing, and both interoperability and integration, is critical.

It's very important that we grow bilaterally first in doing live fire exercises like the two that we've done with the Wake Island one with us doing a bilateral firing exercise with Japanese Aegis ships, Japanese Patriots, U.S. THAAD, U.S. ships in that same exercise, is important to do. Likewise in Korea, live fire exercises in Korea would bring that mixture together.

I think from our perspective, our missile defense capabilities and our country need

to go beyond a limited capability against North Korea and Iran. We have to be able to have some capability against our near peers to make the world a safer place. I'm going to end on that and introduce our speakers.

I want to tell you first off that Ron Christman from the DIA did not get his clearance in time so he's not able to speak, but he's here with us at the end of the table. I'll start off with introducing Mr. Richard Fisher who many of you know. He's a senior fellow with the International Assessment and Strategies Center and is an expert on China and the Pacific. We'll go to you, Richard.

MR. RICHARD FISHER: Riki, thank you very much for your kind introduction and to come here and offer some thoughts in support of your mission, which I fully support, working with our forces and working with our allies and our partners, Japan, South Korea, Taiwan, in meeting a growing missile threat, a missile threat that is very well felt in the Asia-Pacific region and one that is of great concern to our military leadership as we try to make the decisions that will continue to preserve deterrence in that region. What I'd like to do today is offer something of a deep drill, a kind of an order of battle style brief on what the Chinese are doing missile-wise. But before I do that I want to offer some sort of broad strategic thoughts about what is driving China's missile buildup.

For the Chinese Communist Party dictatorship, and that's what it is, strategic missile forces are the most important capability that they have. The first military unit that Ji Xingping visited after he ascended power in 2012 was to address a large group of generals from the Second Artillery, which is the main missile force under the People's Liberation Army. They have an army, navy and air force and a specific Second Artillery missile force. They might have a space force in the future, but that may come from ongoing reforms that I'll mention briefly as well.

Nuclear weapons are extremely important to the Chinese Communist Party leadership because they deter nuclear attack from the other nuclear powers. But they also provide coercive opportunities for that leadership as it seeks to assert increasing control over East Asia, as it seeks to settle territorial disputes for what it calls its civil war with the democracy on Taiwan, and take control of the South China Sea, which sees the transit of about $5 trillion of commerce a year, commerce that is very important in promoting economic growth here in the United States. China's missile forces are being built up on the intercontinental level to deter the United States and Russia. It is possible that China could achieve a level of parity or near parity in the not too distant future.

It is building up its theater missile forces and short-range ballistic missile forces to assist in a possible coercive operation to accelerate the unification with Taiwan and destroy the democratic government there. It is building up its levels of cruise missiles and the sophistication of its cruise missiles that are land-, sea-, submarine- in the future, and air-launched. It is developing missile defenses and a nuclear triad: land-based ICBMs, sea-based SLBMs, and in the future long-range strategic bombers.

There is something of a debate over the size of China's nuclear forces and its potential. There is the public numbers that are given by the U.S. Department of Defense, most recently maybe 50 to 60 ICBMs, plus the addition of 60 SLBMs when you work out that the five SSBNs will have 12 missile each. In 2012 a retired Russian Strategic Missile Forces former chief of staff, Colonel-General Viktor Yasin, gave us some different numbers.

The usual Western estimate is that the Chinese might have 200 to 400 warheads. Yasin estimated that they might have enough plutonium and highly enriched uranium for 3,600, and 16 to 18 may have been produced with 800 to 900 intended for deployment. And really for the first time anywhere, told us that the Chinese might have up to 500 tactical nuclear warheads.

Drilling down into some of the details, this year the DOD report acknowledged for the first time that China's first ICBM, the DF-5, now has a multiple warhead variant. I've been hearing about this variant since 2008 from friends in Asia. In the September 3rd parade, just a few months ago, it was revealed. How many warheads does it have? It's not sure. There are some estimates of three. Here is a sort of unofficial Chinese estimate of seven, maybe 10, depending upon the size of the warhead.

The DF-31 and DF-31A are in service. The DF-31 may only have one brigade. The DF-31A, perhaps two or three. Both are single warhead, as far as I know. This is a very rare illustration of the warhead area of the DF-31 Alpha.

There is also something called the DF-31B, Bravo. It is carried by a different TEL, more capable of off-road mobility. There might be a reload carrier for the DF-31B and A. This missile might have multiple warheads as well.

The DF-41 has received a lot of attention. It is a large solid-fueled mobile ICBM. It looks a lot like the Russian mobile ICBMs. It has been tested. How many warheads? That hasn't been revealed publicly. There are estimates that it could carry up to 10 warheads. It may be in service now or could enter service very soon in the next year.

Submarine launched missiles are coming along very well. After a very long development period, the Chinese launched their first Type 094 SSBN early in the last decade. There are estimates anywhere from five to eight may be produced. Each carries 12 missiles, JL-2 submarine-launched ballistic missiles. There may be additional variants of the JL-2 in development, possibly with multiple warheads. This is just some speculative Chinese art about what that would look like.

By the 2020s we should expect a third generation of SSBNs called the Type 096. This is just an illustration from a Chinese engineering journal that might give us some indication of what the Type 096 will look like. This chart, one that I update frequently, just offers an estimate based on low numbers of missiles, high number of missiles, low numbers of possible warheads and high numbers of possible warheads, just to give an idea of how quickly the Chinese could increase their warhead numbers by just increasing

their missile inventory modestly. These slides, I'm told, will be available on MDAA's web site, if anyone wants to review them and challenge me later.

Moving along, in terms of short-range ballistic missiles it is possible, very possible, that the more or less acknowledged 1,200 short-range ballistic missiles pointed at Taiwan mainly, could grow to several thousand, maybe up to 5,000 if China moves from what I would call a first generation SRBM to a second generation SRBM. The second generation could carry up to five missiles. Both of the main Chinese missile companies, CASIC and CASC, build SRBMs. Both have recently produced for export new SRBMs that use both a unitary fuselage and 300 kilometer range, so SRBMs based on artillery rocket technology, meaning it's cheap. And instead of putting one missile on a TEL, transporter, erector launcher, you can put five or you can put eight. And I just offer some speculative math as to how with reloads you could get to 5,000.

This is the A-300, one artillery rocket-based SRBM that I was told at the IDEC show by a Chinese sales person was going to be purchased by the military. This, to me, sets off the domino possibility that both companies, CASIC and CASC, could be selling six similar systems to the PLA leading to this possible very large increase in SRBMs pointed at Taiwan.

Medium-range missiles and intermediate-range ballistic missiles also receive great attention from the PLA. The DM-21 Delta carries an anti-ship ballistic missile warhead. The DM-16 is an 800 to 1,000 kilometer range ballistic missile designed to help defeat Taiwan's missile defenses with added speed and range. We saw in the September parade the DF-26, which the parade announcer told us from the beginning is going to be armed with an anti-ship ballistic missile warhead. This is a curious TASC system that might be a new medium-range ballistic missile system, according to my friends in Taiwan.

China is also, in my opinion, developing a non-nuclear prompt global strike capability. In a sense, they have a theater prompt non-nuclear global strike capability through the DF-21 Delta and the DF-26, both of which are deployed. CASIC has recently opened a production line for a second intercontinental range ballistic missile, two of them actually, the Kuaizhou space launch vehicle and what might be the Kuaizhou II space launch vehicle. This one can put 1,000 kilograms into orbit, and this one, 250. It depends on how many non-nuclear maneuverable warheads of the type that China is testing called DF-ZF. This is a warhead that vastly complicates missile defense interception or could aerodynamically increase the range of the warhead.

This missile might be tested next year. The is the Kuaizhou I launch system that has been launched twice so far. It looks just like an ICBM. It could be an ICBM, we don't know. The Chinese aren't going to tell us.

Missile defense and anti-satellite capabilities have been a focus for the PLA since the early 1990s. They are actually in their second ABM and ASAT program. The first one occurred in the early 1960s. My friends in Asia tell me that before 2025 China could

have a deployed missile defense system defending high value targets for them.

And then finally, I mentioned the triad. China is also thought to be ready to deploy a new intercontinental range strategic bomber by 2025. It's curious. The Russians, the Americans and the Chinese are working on new intercontinental range bombers. These are just concepts of what the bomber might look like. These are from academic engineering journals. These articles are never linked to ongoing or current programs. We just have to gather them and speculate that they might give us some insight into the future program.

I'll stop there. I've obviously exceeded my time limit, and turn it over to the next speaker.

MR. ELLISON: Thank you, Ken Todorov, former deputy director of MDA, is our next speaker.

MR. KEN TODOROV: Thanks, Riki. As always, it's a pleasure to be with you. Thanks to you and to your excellent team, by the way. I don't think your team gets nearly the credit they deserve for not only facilitating and hosting but all the work they do behind the scenes to let you accomplish your mission, which is to support all you people. So, thanks.

I'm delighted to be here. I know many of you. Some of you I don't think I know, but just as a way of introduction I come at it from the operational perspective always because that's sort of where I grew up and what I know. So I pale in comparison to the intelligence knowledge that Rick just presented to you, an excellent presentation and overview. I'm also not the material developer, although I was at MDA for a time, and learned a lot about the efforts going on there at MDA. But it's really not my wheelhouse or my background. So I want to go at it today from a little bit of a different perspective from the war fighter perspective, from the operational perspective. Those of you who know me know that that's typically what I like to do.

A couple of foot-stompers that Rik said at the outset that I think if you walk out of here with nothing else, in addition to your free lunch, that you think about, the takeaway here particularly that Riki has asked us to focus on China, and I'm going to go beyond China a little bit, but the threat is increasing in sort of all ranges and aspects from our near peer competitors certainly. Yes, there is large concern from our U.S. military leaders over that fact. And so we spend a lot of time, effort and energy trying to figure out strategies to sort of obviate the increasing threat and trying to work with not only our partners but our near peers in the region to collectively maintain stability there.

I think missile defense capabilities will always be the cornerstone to stability in the region. Some of our near peer friends might argue that point. A case in point Riki mentioned is THAAD in the region. The Chinese have resisted that notion, claiming that it's destabilizing to some degree. Clearly the capabilities of THAAD, if it goes to the Republic of Korea as Riki speculates that it will, really are designed to keep the Republic

of Korea and their citizens safe from a growing North Korean threat. And so for the Chinese to suggest that it is somehow destabilizing is disingenuous to me as the Chinese are developing their own missile defense capabilities. So they must agree with us that missile defense is certainly understandable and from a nation's perspective a good thing.

Rick made a couple of excellent points there and he gave you a great overview of some of the new capabilities and some of the emerging capabilities that China is producing. I want to again step back a little bit and try to take more of a regional view. I don't think you can look at this region solely in terms of what China is doing, what the North Koreans are doing, what our friends and allies are doing. You really have to take the whole picture of what our interests in the region are along with our partners.

And so the big picture for me is that I think -- you know, I go on record as saying we have a strong missile defense presence in the region for both homeland and regional. Some of you may say, this is about China, this is about the Asia-Pacific, what does it have to do with the homeland? I came from a previous job at the United States Northern Command where my four-star boss was charged with making sure that our nation and our people remain safe from a limited ICBM attack, from the North Koreans namely.

And how it would happen, the launch would happen in the Pacific commanders area of responsibility. It would cross into space and now STRATCOM would pick up that mission. Then ultimately it was the NORTHCOM commander's decision whether or not to engage or not. So it really is, as all politics are local sometimes all missile defense is local too.

For the ICBM threat it clearly does cross a number of different combatant command themes. That, candidly, was the challenge for us in the military operationally to make sure that each of the combatant commanders were responsible for their areas. But oftentimes there had to be so much coordination and communication among them, that's clearly for the long-range threat.

But I think that problem, as Riki speculated in his opening, if this mission as a matter of policy is expanded as something more than the limited threat, that would be a considerable challenge for the military, not one we couldn't work out, but one that we'd have to be conscious of. So a strong presence in the region, I think the cornerstone of our security and our diplomacy and our interests in the region, is the bilateral relationships we enjoy and that we cultivate with the Republic of Korea, with our friends and partners in Japan, with Australia, and as I think Rick mentioned, increasingly with Taiwan. We've got a number of initiatives going on, particularly in integrated air and missile defense, in talks and dialogue that I think is a step in the right direction, and again advances the cause.

Going forward, as the problem is increasing, the threat is increasing in both quantity and quality, I think we need to emphasize the importance of developing and operationalizing those regional BMD systems, the things that you're familiar with, be it a sea-based platform or a land-based platform for the regional fight. It's a sensitive topic

for many, and I get that. Again, I know our near peer friends are nervous about the potential for having THAAD in the region.

But again, if you just look at the technical capabilities of THAAD it really isn't designed to destabilize the region. It's designed to protect our friends. And if the South Koreans decide to put it on the peninsula, I think you can understand why.

Sometimes the U.S. can -- you know, when destabilizing actions take place, like North Korean cycles of provocation, sometimes the U.S. can act unilaterally, as it did in 2013 when we deployed a THAAD to Guam. I'm just speculating that in my lifetime I don't think THAAD will ever leave GUAM. It's U.S. territory. We'll continue to protect it as long as the threat is there. It would be nice to have it leave. If it needs to leave we can move it, but I suspect it's going to be there for a while.

So sometimes we do that on our own, but more often and increasingly so, we're going to need to depend on our partners and our allies in the region to sort of take up a piece of the responsibility, to take up the cause, if you will, and regionally contribute in a more robust way to the security in the region. So again, that's where those important partnerships with the Republic of Korea, with Japan particularly, come into play, and increasingly Australia and the Taiwanese as well.

As I was thinking about this region over the last couple of days in preparation for this, let me outline four challenge areas that I identify and maybe some possible solutions, or at least start at thinking about solutions on how we can deal with them. The first challenge -- beyond what Rick already really nicely laid out and which is the increasing complexity of the arsenal of the Chinese Pacific threat -- beyond that for me is the North Korean challenge for the homeland. And job number one for me as a citizen and formerly as a military officer, in defending our homeland is the continuing capabilities that North Korea continues to procure and test and look at and rattle sabers over.

We mentioned the road mobile technology. Rick did a nice job of outlining it for the Chinese. But increasingly, we're seeing that technology and those capabilities from the North Koreans as well. And by the way, they ride around on Chinese TELs, if you hadn't noticed.

So again, sort of a request of our friends in China, if they really want to try to help destabilize that region, I think it would be to their benefit if they could talk to the North Koreans and have them kind of cool their heels a little bit on those efforts. But I don't anticipate that's going to happen. It would be nice if it would.

The North Korean problem is continuing to be a vexing one for us because of the lack of indications in warning, because of the lack of some of the intelligence means we have. We just don't know and we can't predict. If you could predict what Kim Jong-un is going to do, please see me on the break. I'd love to get your thoughts on that. It's really an unpredictable situation.

We have to continue to honor that threat, and it's a homeland defense threat for sure. We can't just blow it off or not take it seriously, despite the fact that they haven't been very successful in their testing efforts and they clearly have some limitations. Nonetheless, you know, all it takes is one. So the North Korean challenge will continue to affect how the United States operates, particularly in the missile defense realm within that region, to be clear.

The broadening of threats that Rick mentioned in terms of volume, the air threats, cruise missile threats, land attack, short-range, medium-range, long-range, the increased development not only from China but from others in the region, is a concern, a challenge for us, to be clear. I always commend you to the chairman's vision that he published a couple of years ago on how we see integrated air and missile defense going in the out-years. Every sensor is so important. Riki mentioned it, the interoperability, being able to have a common air picture or a common space picture amongst our friends and allies.

You all know what's happening with defense budgets. Many of you are intimately involved with those discussions and the way that those things are going. We can't afford to buy our way out of the problem anymore, either in terms of quantity of interceptors or in sensors. We can't put a sensor everywhere around the word. So increasingly, again, this is back to the partnership, back to where our friends and allies and partners in the region will come in, very, very important.

A third challenge that we really didn't mention today and I know we're focused on missiles, but I think we've got to -- not wake up to, pay more attention to -- is the issue of unmanned aerial systems. They're sort of in the category of they're not ballistic missiles but they're in sort of the air and missile defense category, which again as a war fighter I've got to think of the totality of the problem and not fight the war in vacuums. So I hope you would agree that UAS are increasingly a challenge for us.

Some would argue they are eclipsing short- and medium-range missiles in terms of their versatility. Think of the missions possible from UASs: long-range reconnaissance; lethality kinds of missions; confusing the air picture, just putting a sheer number of these things up would clearly add to the confusion for the war fighter; electronic attack, it goes on and on and on. They're tough to detect, and if you detect them they're really even tougher to detect what's the intent of the person that may be behind the joystick flying it. So I think that problem in the out-years, not only in this region but really globally, but particularly in this region, would be a challenge for us to tackle.

And then lastly, as was mentioned briefly, I wouldn't be doing due diligence to what was on sort of the forefront of the Missile Defense Agency's mind in my time there, my recent time there, the hypersonic threat. It's a game changer. Those of you who aren't familiar with it there's a little bit of a blurb on it in this handout that you received coming in. If you didn't get one, take one on the way out because you need to be familiar with that threat, to be sure, if you aren't already.

I'm no expert in it. You can ask Rick in Q&A about the ins and outs of it. But I will tell you that I sort of know how it operates and I know that potentially it's a game changer.

The Chinese are looking at it. The Russians have also looked at it. In fact the Russians have said publicly that it's really designed to penetrate U.S. missile defenses per se, amongst other things.

And so, the Chinese have tested it really six times or so, to some different varying degrees of success. Because it maneuvers and it's not a ballistic trajectory, it presents some issues and some challenges for our current arsenal of tools in the war fighter toolkit, if you will. And so the hypersonic threat is something that we all need to, as a nation, be paying attention to.

So, I've listed some challenges. Let me briefly give you just a suggestion on where -- for whatever it's worth -- where I think we should go. In terms of the North Koreans, again, we've got to continue our -- and this applies, I think, regionally -- expanding our policy of limited ballistic missile defense. We've got to continue to improve the Ground-Based Midcourse Defense System.

We're doing that through efforts on improving the EKV, the Exo-atmospheric Kill Vehicle; increasingly thinking about and talking and starting to design the Multi-Object Kill Vehicle as well; putting new sensors into play. The LRDR was just awarded a few months ago, and I am so happy to say it doesn't appear that any of you great industry people who didn't win the award this time are protesting that. Thank you.

That only means that this thing will be fielded when it needs to be fielded to outpace the threat. That's a good news story for the nation. So thanks to my industry friends for not protesting that, those of you who didn't win the award.

Improvements in discrimination as well, not only in all ranges of ballistic missiles, will go a long way toward improving capabilities for the nation. And then sort of a renewed or re-energized focus on intelligence, on surveillance, on finding ways to increase our persistence on looking at potential adversaries and what their intentions are, increased opportunities for different kinds of intelligence in the region. We've got to pay attention to those things. Oftentimes it's the sort of kinetic stuff that gets funded first. In order for us to know intent and have a good picture of what's going on, we cannot ignore those intelligence related things in terms of our investments.

So in terms of the growing number of threats and the complexity, I keep falling back on this idea of increased cooperation and partnership with friends and allies in the region. They can't do it all, but they've got to take up some share of the responsibility and some burden.

There's a great initiative. I don't know if you all know about it. If you don't, I

ask that you look at it, particularly those of you on the Hill who can help influence legislation and help these folks out.

There's a Pacific Center for Integrated Air and Missile Defense. It was stood up last year at Pacific Command headquarters under Rear Admiral Montgomery's overview. We stood one up in the Middle East a number of years ago and it has paid huge dividends in terms of getting our partners to do everything from exercises, to talking about lessons learned, to talking about ideas and information sharing, to how can we share common operating picture. It's just a place or a repository for people to come and share ideas, not particularly costly in terms of the funds that we're spending on it, but it's paying for itself in spades and it will continue to pay for itself. So the Pacific IAMD Center at PACOM is something that I commend to you and I hope that we continue to support.

In terms of the UAS problem, we've got to continue to pay attention to it. There's an exercise we do every year called "Black Dart." It used to be out at Point Mago in California, but it's moving to Eglin Air Force Base off the coast of Florida.

It's the only place I know where U.S. government military and interagency folks get together and fly UASs around. They talk about and actually test ways to affect them, everything from kinetic ways to non-kinetic ways. It's really paying, again, for itself in spades and out punching its weight. Black Dart and efforts like it have to be continued to be a part of the conversation. It's easy to cut that stuff out, but for the problem we've got to continue to fund it.

And then in terms of the hypersonic problem, I will tell you without saying anything that will send me to jail -- which I don't intend to do -- I will tell you that the missile Defense Agency is working on that problem and they've got some great ideas for how to counter that problem if the nation so chooses to defeat that growing capability. The issue and where I need your help on it -- and this is something that my friend Tom Karako, if he doesn't mind me calling him out, has pointed out in recent months -- the MDA budget has declined in recent years. That's sort of understandable given the totality of defense.

Not only has it declined, but within each of the years the money that we spend on research and development and new technologies and the kinds of things that will help us defeat these issues and these problems, we spend less and less on the R&D and more and more on flat-line procurement and sort of combat support operational kinds of things. That's sort of a policy question internal to the Department of Defense, a little bit, but I think many of you can help us influence that. We need to let MDA get back to the business at hand, what they are really chartered to do, which is the best and brightest minds in this nation figuring out tough solutions to tough problems, as opposed to the MDA being sort of a place where we procure missiles from and we continue to operate and support systems around the world.

That still has to happen, but it has to happen in some other pot of money. That is Ken's view, and I can say that more freely now that I'm no longer wearing the uniform.

But MDA has got to get back to its reason for existence, if you will. It's not that they've totally gotten away from it, but if we're going to solve the hypersonic problem, and there are great ideas on the table right now, we can get there, but we've got to do it with more R&D efforts.

And so let me close by saying I'm an optimist. I've always been optimistic in terms of our capabilities and this nation and the fact that we can overcome these challenges. But the threat is growing, make no mistake.

Rik did a nice job of outlining it from China. I know that we're focused more on China today. I really wanted to take a more regional approach to it. China is certainly -- and our near peer friends -- are part of the things that we're looking at. But it's more than that.

The threat is increasing. You need to be aware of that. You need to be smart about it. Those of you who influence policy and legislation, please make sure that you are.

And we've got to continue to partner with our friends, partners and allies around the world. That will go a long way to keeping all of our interests protected. And as I mentioned, support MDA in the research and technical work that they really are good at doing.

U.S. support really matters. It really makes the difference. Regardless of where you're sitting, my friends in industry, you have a big play in this.

My friends who work on the Hill, be it for one of the members or on the committees, first of all thanks for being here. It says a lot that you take the time to learn a little bit more about the challenges, and thanks for helping to understand them. But even more, thanks for going back and rolling up your sleeves and helping us as a nation work on these problems to keep us safe at the end of the day, which is really what it's all about.

So thanks, Riki, for the chance to talk today and offer a couple of thoughts. We're going to open it up for questions. Riki doesn't know I'm necessarily doing it this way, but typically the media guys come in and the industry guys come in.

I want to let the first two questions go to those of you who work on the staffs on the Hill. The first two questions will come from you and then we'll open it up to anyone else. So, the first question from one of the staffers, please.

QUESTION: I attended a Senate Armed Services/Intelligence briefing on the Pacific and our strategy to deal with China's increasing aggression. It was discussed at the brief or hearing that a way to combat China's increasing aggression is to work with China, because China is more and more concerned with the increasing militarization of North Korea such that North Korea --

MR. TODOROV: I hope so, they should be.

QUESTION: -- nuclear submarines. Is there any truth to China's fear of that, of North Korea?

MR. FISHER: One of the most modern, well-armed military regions of the People's Liberation Army is the one next to North Korea. I would say that China has a very high interest in maintaining the status quo of a communist dictatorship in Pyongyang, and it will work hard to preserve that. But it is also wary of the instabilities in North Korea that could see a precipitous collapse of that regime. It remains an open question as to whether China will respond to such a collapse by assisting South Korea with its long-delayed unification or whether it will rush in and prop up a new dictatorship in Pyongyang. I look at China as being ready for both scenarios. The Chinese, in my opinion, really don't want us to know which one they prefer.

MR. TODOROV: Your question is an excellent one, and I'm no expert in it, like I said. I'll just sort of foot-stomp something I said earlier. We talk a lot with our friends in China about destabilization in the region and some of the things that either we're doing or our partners are doing.

The number one thing they can do to stabilize and sort of ratchet down whatever tensions exist, is for them to influence -- whatever influence they have and maybe they don't have anymore, I don't know, but I think they probably have a better chance than a lot of other interested parties in either the region or around the world -- to ratchet down this pattern of provocation, the saber rattling, the you know, we're going to launch an SLB or whatever it is. I think if they want to do something to help globally, and particularly in the region, they could be doing that. I would hope that they're concerned with what's going on in North Korea and hope they exert some influence to try to help.

QUESTION: You spoke a little bit about cyber and I was wondering about your thoughts and how you envision the Chinese using cyber technologies and capabilities to disrupt our (missile capabilities ?) and how that may be deployed -- (off mic)?

MR. FISHER: I don't study or focus on cyber as much as I focus on other aspects of Chinese military modernization. But the degree to which cyber attack capabilities are integrated into the length of the order of battle of the People's Liberation Army, the degree to which they have proliferated into intelligence organs, not just one center in an organ but scores of centers within an organ, points to just the vast opportunity for mischief in the challenge that you identify. Where it will come from, how effective it will be, they're constantly working on this. They're constantly probing our defenses.

But what really worries me the most in terms of a cyber threat would be the possibility of an insider threat, and the degree to which somebody could be manipulated on our side to provide even a temporary vulnerability that the Chinese would be waiting to exploit. We have to be ready and prepared for that as well as what might be coming in from the outside.

MR. TODOROV: I'm just going to add that we're taking it very seriously, both from the defensive and the offensive perspective.

QUESTION: I was curious where missile defense, what the role is as far as China's anti-satellite missiles? Is there a role for missile defense against anti-satellite missiles?

MR. FISHER: China is currently in its second generation ASAT and missile defense building program. The first one occurred early in the 1960s. It was stopped by Deng Xiaoping when he ascended, but it was just put on hold temporarily.

By the end of the 1990s it started anew. The Chinese have led with their anti-satellite program. Their successful test in 2007 was preceded by two to three non-contact tests of their early ASAT interceptor. They now have a second ASAT interceptor, and the Kuaizhou II might form the basis for a third ASAT interceptor that could reach medium Earth orbit satellites.

Now their missile defense program has been run in parallel with their ASAT program. The tests, as the Chinese describe them, sound more like missile defense tests. When these exo-atmospheric tests occur, as they've done six or seven times now, publicly acknowledged at least on the American side, we call them ASAT tests because they occur in orbit. But the Chinese sometimes call them missile defense tests.

They are working on, in my opinion, strategic level missile defense systems as well as theater and short-range missile defense systems. We might begin to see the deployment of theater range missile defense systems in the not too distant future, perhaps before 2020.

MR. TODOROV: We'll open it up to anybody now. Good questions.

Tom Karako asked me a question. He's going to see me again on Friday so he can ask it then.

QUESTIOM: Tom Karako (CSIS). I think that even if where you want to go with this is to focus on China, I think General Todorov's big picture perspective is exactly the right one. Let me add one additional phrase to the discussion that has gone on in your big picture. The part, I think, of the controversy and part of the fight that we have about trying to persuade our allies to do this, that or the other, and the controversy (between neighbors ?) is trying to decide if they're within China's sphere of influence.

We don't believe that in theory. We believe in the sovereign equality of all countries. But it actually helps to explain China's reaction to why they really don't like Korea even putting in a defensive system in their own country.

So let me ask about the premium that you place upon the principle of our allies

taking these steps in pursuit of their sovereign defense. And also, what will it take to make that meaningful and significant? When I say what will it take, I mean how many THAAD batteries would it take to really defend South Korea? We're talking about one. How many would it take?

The four Patriots for Japan, that's not very much. As you said, they're not very well integrated. So taking kind of a larger political view of the whole thing, but also what's it going to take on the capacity side?

MR. TODOROV: Once again Tom Karako always asks pretty in-depth questions requiring a lot of critical thought. You make great points, first of all. What's it going to take?

I guess, Tom, you know I'm a believer in sort of a wide range of capabilities. I'm fond of saying hit-to-kill will always be a part of the equation. But as you well know, there's this whole in vogue right now of what other means can we get at the problem? Cyber was mentioned, electronic attack. I think when the vice chairman spoke at CSIS earlier this year he mentioned several other possibilities. If you haven't seen his talk, by the way, it's on the CSIS web site. It's very good.

I'm no expert on the diplomatic side, the larger side. I take your point about spheres of influence and how we look at it may be differently. On the what's it going to take part, I don't know.

I do know that there are a lot of ways for nations to contribute. And a lot of these systems are very expensive certainly, and some nations don't have the means or don't want to contribute the means. But there's a number of ways that they can contribute, be it with hardware, be it with hardening means, there's just a wide range of capabilities I think they can chime in with.

You look at what the Japanese are doing with their co-development on the SM-3 2A, you look at some of the other partnerships we have now with the Brits on a couple of initiatives we're working, and others in the Gulf Cooperation states, I just think together collectively we're stronger than the parts by themselves. A lot of these are policy challenges that we've got to overcome in information sharing and data sharing. Those things have to be addressed, clearly.

We could probably write a graduate level paper on what it's going to take. I'd be nice to see some baby steps, and that's why I'm a big believer in the Pacific IAMD Center and getting folks together and talking and contributing however they can and just sort of buying into the notion that collectively -- it's got to be a collective problem, not a unilateral problem. And that's probably, for today, the best answer I can give you.

Do you have any thoughts you want to add in?

MR. FISHER: Just that an insufficient American response is already producing

two tasks. The first is interest in independent deterrent capabilities. Clearly this is being demonstrated in South Korea and the Japanese are clearly developing options that they can develop very quickly. The other path is one of accommodation to broad Chinese power. And I would say the leader in terms of that trend is today Thailand, who used to be a -- is still a very active military partner with the United States, but is also quickly becoming the most active Asian military partner of the Chinese.

In addition to the missile defense problem, I think we also have to start out with a very clear appreciation of the coercive and direct military challenge that each of our allies faces: South Korea, Japan, Taiwan, the Philippines. We need to be addressing not just their missile challenge, but their broad challenge. For example, for Taiwan, yes there is a significant missile challenge. But the basic fundamental challenge is one of full-out invasion.

I didn't expand on it, but the military reforms that are being pursued by the PLA are going to intersect with essentially a new generation of hardware, by the early 2020s, and they're going to be on a war-footing. A second administration of a government in Taipei that is, shall we say, not very eager to unify with China, could prompt, for a number of reasons, coercive attempts by China, or worse. What we need to be doing in terms of Taiwan is working very quickly to equip them with a next-generation level of capabilities in many spheres that will hold off the invasion for another decade. And we can do that, we can do that.

MR. ELLISON: I just want to wrap it up. I'd just like to add one more thing to that, Tom. I think the solution is first getting everybody on the same page. We don't have everybody on the same page with our allies, just in terms of sensor capability and situational awareness. We can get that done right with Link 16 across the board.

I think the next major thing that we have to do is we have to start mixing offense with defense. We're never going to have enough capability, but we need to show force, big time force, alongside our missile defense capability for the deterrent of the region.

I also wanted to let everybody know that next week in the Pacific we have two major tests on missile defense. One of them is the prove out of the SM-3 1B on Aegis Ashore, that proves out our Aegis Ashore system to go in place in Romania. The 1B is going to also be upgraded in both software and hardware. And that, too, is looking to be a replacement for the fleet and also for those ships in Japan. They're going to have to fill up those tubes.

The second big test is the fly out of the SM-3 Block 2A with the Japanese, and they're going to open up that vehicle. They're going to open up the ties to see that. Those are significant tests in the Pacific that are going to happen pretty shortly on that aspect of it.

Thank you for the great discussion, Rick and Ken. As you can see, missile defense is really being developed and coordinated in this theater of the world more than

anywhere else in the world. This is where evolution is going to happen. This is where our best stuff is going to be going to. And it is where we need to be to keep the status quo, to keep international trade routes available, and to keep everybody safe.

So thank you very much for coming. We'll hopefully see you next year. Have a good Christmas holiday and enjoy yourselves.

Thank you.

(Applause).